

We claim:

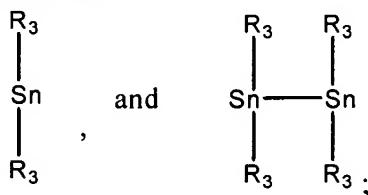
1. A polymer precursor compound represented by 1:



wherein:

Poly represents a polymer;

L is selected from:



R represents aryl or heteroaryl;

Y represents hydrogen, alkyl, alkoxy, carbonyl, formyl, amido, amino, alkylamino, dialkylamino, carboxamido, acylamino, (heterocyclcyl)acylamino, alkylcarboxyamido, $\text{C}(\text{O})\text{-R}_4$ or $\text{C}(\text{O})\text{NH-R}_4$;

R_3 represents independently for each occurrence alkyl, alkenyl or alkynyl;

R_4 represents hydrogen, alkyl, alkenyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, aralkyl, heteroaralkyl, peptide, protein, amino acid, antibody, nucleotide, nucleoside, or $-(\text{CH}_2)_m\text{-R}_{80}$;

R_{80} represents independently for each occurrence aryl, cycloalkyl, cycloalkenyl, heterocyclcyl, or polycyclcyl; and

m is an integer in the range 0 to 8 inclusive.

2. The polymer precursor compound of claim 1, wherein L is $\text{R}_3\text{-Sn-R}_3$.

3. The polymer precursor compound of claim 2, wherein Y is alkoxy, formyl, amido, dialkylamino, carboxamido, alkoxy, alkylcarboxyamido, $\text{C}(\text{O})\text{-R}_4$ or $\text{C}(\text{O})\text{NH-R}_4$.

4. The polymer precursor compound of claim 3, wherein Y is $\text{C}(\text{O})\text{-R}_4$ or $\text{C}(\text{O})\text{NH-R}_4$

5. The polymer precursor compound of claim 1 wherein R₄ is a peptide, protein, amino acid, antibody, nucleotide or nucleoside.

6. The polymer precursor compound of claim 4 wherein R₄ is a peptide, protein, amino acid, antibody, nucleotide or nucleoside.

7. The polymer precursor compound of claim 6 wherein R₄ is a peptide or protein.

8. The polymer precursor compound of claim 6 wherein R₄ is a nucleotide or a nucleoside.

9. The polymer precursor compound of claim 2 wherein R₃ is alkyl.

10. The polymer precursor compound of claim 2 wherein R₃ is butyl.

11. The polymer precursor compound of claim 11 wherein said polymer is functionalized by the moiety L on substantially all monomeric units.

12. The polymer precursor compound of claim 1 wherein said polymer is insoluble.

13. The polymer precursor compound of claim 12 wherein said polymer is polystyrene, polyurethane, poly(ethylene-co-vinyl acetate), polyethylene, polystyrene /rubber, or poly(ethylene-co-propylene).

14. The polymer precursor compound of claim 13 wherein said polymer is polystyrene.

15. The compounds:
Poly-(4S, 5S)-2-(4-{dibutyl[2-(3-vinylphenyl)ethyl]stannyly}phenyl)-3, 4-dimethyl-5-phenyl-1, 3-oxazolidine)-co-divinylbenzene; Poly-(4S, 5S)-2-(4-{dibutyl[2-(4-vinylphenyl)ethyl]stannyly}phenyl)-3, 4-dimethyl-5-phenyl-1, 3-oxazolidine)-co-divinylbenzene; Poly-(3-{dibutyl[2-(3-vinylphenyl)ethyl]stannyly}benzaldehyde)-co-divinylbenzene; Poly-(3-

{dibutyl[2-(4-vinylphenyl)ethyl]stanny}benzaldehyde)-co-divinylbenzene; Poly-(4-{dibutyl[2-(3-vinylphenyl)ethyl]stanny}benzaldehyde)-co-divinylbenzene; Poly-(4-{dibutyl[2-(4-vinylphenyl)ethyl]stanny}benzaldehyde)-co-divinylbenzene;
Poly-(3-{dibutyl[2-(3-vinylphenyl)ethyl]stanny}benzoic acid)-co-divinylbenzene;
Poly-(3-{dibutyl[2-(4-vinylphenyl)ethyl]stanny}benzoic acid)-co-divinylbenzene;
Poly-(4-{dibutyl[2-(3-vinylphenyl)ethyl]stanny}benzoic acid)-co-divinylbenzene;
Poly-(4-{dibutyl[2-(4-vinylphenyl)ethyl]stanny}benzoic acid)-co-divinylbenzene; Poly-(4-{dibutyl[2-(3-vinylphenyl)ethyl]stanny}hippuric acid)-co-divinylbenzene,
(4-{dibutyl[2-(4-vinylphenyl)ethyl]stanny}hippuric acid)-co-divinylbenzene;
Poly-(4-{dibutyl[2-(3-vinylphenyl)ethyl]stanny} N, N-diethylethylenediamino benzamidyl)-co-divinylbenzene; Poly-(4-{dibutyl[2-(4-vinylphenyl)ethyl]stanny} N, N-diethylethylenediamino benzamidyl)-co-divinylbenzene; Poly-(4-{dibutyl[2-(3-vinylphenyl)ethyl]stanny} N-succinimidyl ester)-co-divinylbenzene; Poly-(4-{dibutyl[2-(4-vinylphenyl)ethyl]stanny} N-succinimidyl ester)-co-divinylbenzene; Poly-(4S, 5S)-2-(5-{dibutyl[2-(4-vinylphenyl)ethyl]stanny}-2, 3-dihydrobenzofuran-7-yl)-3, 4-dimethyl-5-phenyl-1, 3-oxazolidine-co-divinylbenzene;
Poly-5-{dibutyl[2-(4-vinylphenyl)ethyl]stanny}-2, 3-dihydrobenzofuran-7-carbaldehyde-co-divinylbenzene; and Poly-5-{Dibutyl[2-(4-vinylphenyl)ethyl]stanny}-2, 3-dihydrobenzofuran-7-carboxylic acid-co-divinylbenzene.

16. A method for preparing a radiolabeled compound, the method comprising: reacting a compound of any of claims 1 – 15 with an oxidant, a radiolabeled compound and optionally a buffer.

17. A method of claim 16, further comprising a purification of the radiolabeled compound.

18. A kit containing a radiolabeling system, comprising: a polymer precursor compound and instructions for using said polymer precursor compound, wherein said polymer precursor compound comprises the polymer precursor compound of claim 1.

19. The kit of claim 18 that further includes a filter or a filtration device.

20. The kit of claim 19 that further includes a chelating agent and optionally an auxiliary molecule.

21. A method of synthesizing radiolabeled benzamides on a solid support which comprises:

- a) selecting a solid support comprising at least one compound attached to said solid support which compound comprises a benzoic acid moiety;
- b) reacting said moiety of said compound attached to said solid support with at least one amine to afford a benzamide bound to a solid support; and
- c) reacting said benzamide bound to said solid support with a radiolabeled compound or isotope, and an oxidant to yield said radiolabeled benzamides.

22. The method of claim 21 wherein the radioisotope is selected from the group consisting of ^{18}F , ^{11}C , ^{76}Br , ^{123}I , ^{131}I and ^{125}I .